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and appears very narrow in comparison with the capacity of its tube. The anterior division of the body, about an inch long, is flattened, and about half as wide, but narrowing behind, and is composed of eight podal segments provided with dense bunches of lustrous, golden setae. The succeeding segment, long and narrow, is provided with a pair of wing-like appendages an inch long, and each furnished with two bundles of diverging setae. Then follow five long narrow segments with large membranous appendages, without setae. The terminal segments, of which 15 remain in the specimen, are furnished with pairs of long pointed appendages with bundles of setae.

FEBRUARY 21.

The President, Dr. LEIDY, in the chair.

Twenty-one persons present.

The following papers were presented for publication:—

“Researches upon the general physiology of Nerves and Muscles.”

By Henry C. Chapman M. D. and A. P. Brubacker M. D.

“Notes on an aquatic insect larva with jointed dorsal appendages.”

By Adele M. Fielde.

Necessity for Revising the Nomenclature of American Spiders.—Dr. McCook remarked that during the summer of 1887, while visiting the Zoological Library of the British Museum of Natural History, he gained information which may revolutionize, or at least compel a radical revision of the nomenclature of American spiders.

His interest in these animals being known by some of the zoologists in the room, his attention was called to a volume of unpublished figures of American spiders then in the library. These drawings were made by Mr. John Abbot, an Englishman settled in Savannah during the latter part of the eighteenth century. The figures were made as early as 1792. At least they bear that date. Mr. Abbot is well known to entomologists by his work upon lepidoptera, published in connection with Mr. Smith.¹ This book proved to be the volumes, long supposed to be lost, of original drawings from which Baron Walckenaer described the numerous species from Georgia which are found in his *Natural History of Apteroous Insects*.²

¹ “The Natural History of the rarer lepidopterous insects of Georgia. Including their systematic characters, the particulars of their several metamorphoses and the plants on which they feed. Collected from the observations of Mr. John Abbot, many years resident in that country, by James Edward Smith M. D. 2 Vol's, fol. London, 1797.”

² *Histoire Naturelle des Insectes. Aptères. Vols. I. and II. Suites a Buffon. 1837.*

It was known, of course, from Walckenaer's introduction to his descriptions that he had purchased Abbot's¹ drawings of over five hundred species of spiders and other arachnids; that he also had the manuscript drawings made by Bosc of South Carolina spiders. But Americans seem to have been in ignorance of what had become of these drawings, and the fact that they were in the Zoological Library appears to have escaped the observation of the little circle of British students of araneads; at least the speaker could recall no reference made to them in current literature. It was not until the above incident that an American student was known to have a clew to the whereabouts of the valuable volume which the British Museum is so fortunate as to possess.² How the book happened to come into its present place, or in what manner it was procured from Baron Walckenaer or his executors, Dr. McCook was not able to say.

On the day when the discovery was made, he had engagements which prevented him giving more than an hour or two to the study of the figures, and as he was about to leave London, no further opportunity presented for making extended notes. However, he was able at once to recognize a number of species which have long and familiarly been known under the names published by Hentz. He took notes of a number of these species, principally among the orbweavers, a group with which he was at present particularly engaged. He also took the numbers under which the figures are listed by Abbot.

After returning to America Dr. McCook went over Walckenaer's descriptions, comparing them with his own notes, and found that there is no doubt at all as to the identity of these drawings with the original ones from which Walckenaer described his published species. The number of Abbot's figures as they appear in the manuscripts correspond with the numbers cited by Walckenaer in his references to the same. Moreover, Walckenaer's descriptions, viewed in the light of the speaker's recollection of the drawings, together with his own notes and identification on the spot, remove all doubt as to the identity of at least a considerable number of the species.

The importance of this discovery is seen in view of the following facts: Walckenaer published his descriptions of Georgia species in 1837; Professor Hentz, the father of American Araneology, made his publications in the *Proceedings and Journal of the Boston Society of Natural History* beginning with the year 1841, and continued until 1850. The latter have been gathered together and

¹ Walckenaer erroneously refers to the author as "Thomas" Abbot; his name is "John."

² The full title of the book is "Drawings of the Insects of Georgia in America by John Abbot of Savannah. Vol. XIV, 1792." Zoological Library of the British Museum of Natural History, London.

published in book form under the title of "The Spiders of the United States," edited by Edward Burgess and with notes by Mr. Emerton.¹

Hentz had some previous papers of no very great consequence, and in 1835 he published a simple list of 125 species arranged under the genera to which he supposed that they belonged. This was in the Second Edition of Hitchcock's Report of the Geology of Massachusetts, (1835.) An examination of this list shows that it includes a number of the species which Walckenaer described in 1837 from the drawings of Abbot. So far then as the bare publication of these names is concerned Hentz has a priority of two years.

The question of priority involved is yet more complicated by the fact that the second volume of Walckenaer's work, containing many of the American species and all the orbweavers, bears a date whose integrity is seriously questioned. The title page gives "1837" as the year of publication, the same as that rightly borne by the first volume; but Dr. T. Thorell, who is one of the highest living authorities in Araneology, declares that this volume "did not come out till 1841."² This fact, however, does not seriously effect the points in issue, as only a few species of the Mygalidae were published by Hentz in 1841;³ all the remaining species were published during and subsequent to 1842.

The attitude of American students of spider fauna toward Walckenaer's descriptions alluded to above has been something after the fashion of the famous Scotch verdict "not proven." In other words, in the absence of any types or specimens anywhere existing to which his descriptions might be referred; in the absence of the original drawings from which his descriptions were made, for none (or only one) of them were made from the specimens themselves; and in the absence of any knowledge as to whether those drawings anywhere existed, it was generally conceded, so far as there was any thought or action on the matter at all, that Walckenaer's descriptions must be considered as non-existent. The priority, therefore, of all the descriptions made by Hentz has been heretofore universally allowed, even though some of Walckenaer's descriptions are sufficiently clear to show without the aid of figures that he had in mind the same species covered under different names by Hentz. Dr. McCook believed that on the whole this decision was a righteous one, and that up to this date no claim could have been established in favor of Walckenaer's priority.

However, a question now arises which it is necessary to face and in some way settle. Does not the discovery of the original drawings in the Zoological Library of the British Museum put an entirely

¹ Boston : Boston Society of Natural History, 1875.

² Thorell: "On European Spiders," Nova Acta Reg. Soc. Sci. Upsaliensis; Ser. 3rd, Vol. VII., p. 15, foot note. The text indicates that he knows "with certainty that such date was incorrectly given."

³ *Mygale truncata*, *solstitialis*, *carolinensis*, *gracilis* and *unicolor*. See Proc. Bost. Soc. Nat. Hist. I, pp. 41-42.

new phase upon the matter? Shall we not be compelled, in view of the fact that there can now be no doubt of the identity of Walckenaer's species, to give the priority to him?

The very few American students of our spider fauna have become so familiar with many of Walckenaer's species under Hentz's names, that it will be difficult to throw those names out of mind. Moreover they have entered into all our literature up to this date, and there will be great confusion in making the corrections. Besides, it must be allowed that Hentz's names are better chosen than Walckenaer's. If Abbot, whose patient, long continued and intelligent labors deserve the real honor, could receive the credit of entitulation, one might, at least on the ground of sentiment, feel more reconciled to seeing the priority pass from Hentz; especially as Baron Walckenaer was often indifferent to the prior rights of fellow naturalists. But the laws of priority must be considered, and honesty and justice can give no room for considerations of convenience and sentiment.

Many of Walckenaer's descriptions may be considered as fairly good, and indeed they have all along been recognized as clearly covering some of Hentz's species. But when those descriptions are placed alongside of Abbot's drawings, from which they were made, all doubt is removed as to the identity. For the most part, Abbot's drawings are tolerably accurate, well finished, are colored after nature, and there was no difficulty at first sight in identifying a large number of our well known species, under the names published by Professor Hentz. It seems unfortunate that such good work should have remained so long unnoticed, and that credit for the same should have been so wholly lost to the author. It is at least some satisfaction to be able to render such justice and honor as this notice may bring, to one who barely escaped the distinction of being the father of American araneology by inability to publish or procure the publication of his faithful labors.

There are thus raised very delicate points as to the law of priority, concerning which Dr. McCook desired to obtain the judgment of his associates:—first, in view of the fact that Walckenaer's species were described not from the spiders themselves, but from the drawings of them made by another hand, can we be permitted to give priority to Hentz, whose descriptions were made from the animals themselves? Second, does the fact that two years previous to Walckenaer's descriptions, Hentz published the names of one hundred and twenty five species, many of which are identical with those of Abbot's drawings and Walckenaer's descriptions, entitle the American author to priority as to these species? Under ordinary circumstances it would perhaps be at once admitted that Hentz could have no claim, but in view of the special circumstances alluded to may there not be some departure from the strict construction of the *lex prioritatis*? The inconvenience of overthrowing Hentz's names would be a peculiar hardship to American araneologists, unless the original or a fac-simile of Abbot's Drawings could be obtained and made accessible on this side of the Atlantic. With the book in the British

Museum, there is no final court, before which to test the integrity of species, available for the bulk of American students. While Walckenaer's descriptions are generally intelligible with the drawings in hand, many are obscure without them. This is equally true of Hentz's descriptions; but then we have his figures to interpret the descriptions sufficiently well to enable us to identify the species.*

Dr. McCook presented a list of a few of the best known species, especially among the orb weavers, of those which were recognized by him as identical with the corresponding numbers in Abbot's drawings, and which, if Walckenaer's claim to priority be conceded, must hereafter be known under the names assigned by that naturalist. A reading of this brief list will give araneologists some idea of the serious labor that must be wrought by them before fixed and satisfactory results can be evolved from the confusion into which our existing nomenclature has been startled by the unexpected reappearance of Abbot's long lost manuscripts.

These species are here given in the following tabulated form. The first column shows the name given by Hentz. The second shows Walckenaer's names. The third column gives the names of the species as they must hereafter be known if Walckenaer's names are to be accepted.

TABLE OF REVISED NOMENCLATURE OF AMERICAN SPIDERS.

HENTZ.	WALCKENAER.	REVISED.
<i>Epeira insularis</i>	<i>Epeira conspicellata</i> ¹	<i>Epeira conspicellata.</i>
<i>Epeira trivittata</i>	<i>Epeira arabesca</i> ²	<i>Epeira arabesca.</i>
"	<i>Epeira Pegnia</i> ³	<i>Epeira arabesca.</i>
<i>Epeira domiciliorum</i>	<i>Epeira benjamina</i> ⁴	<i>Epeira benjamina.</i>
<i>Epeira parvula</i>	<i>Epeira eustala</i> ⁵	<i>Epeira eustala.</i>
<i>Epeira thaddeus</i>	<i>Epeira cepina</i> ⁶	<i>Epeira thaddeus.</i>
<i>Epeira verucosa</i>	<i>Epeira arenata</i> ⁷	<i>Verucosa arenata.</i>

*In the discussion which followed the remarks of Dr. McCook the opinion was expressed by Professors Leidy, Lewis and Dall that the earlier names should in all cases be adopted, no matter how much inconvenience might be entailed thereby, if the descriptions were recognizable. Prof. Heilprin held that such cases should be decided so as to cause the least embarrassment to naturalists and therefore the least detriment to Science.

¹ Walck. Nat. Hist. Apteres. Vol. II, p. 58. ² id p. 74. ³ id p. 80. ⁴ id p. 42.

⁵ id p. 37. This species, whose remarkable variations have attracted the attention of all who know it, is described by Walckenaer under several names, as it was by Hentz.

⁶ id p. 38. Walckenaer confounds *thaddeus* with *parvula* of which he makes it a variety. Hentz's name may therefore stand.

⁷ id p. 133.

<i>Epeira stellata</i>	<i>Plectana stellata</i> ⁸	<i>Plectana stellata</i> .
"	<i>Epeira nobilis</i> ⁹	
"	<i>Epeira cerasiae</i> ⁹	
"	<i>Epeira iris</i> ¹⁰	
<i>Epeira riparia</i>	<i>Epeira cophinaria</i> ¹¹	<i>Argiope cophinaria</i> .
<i>Epeira fasciata</i>	<i>Epeira argyraspides</i> ¹²	<i>Argiope argyraspides</i> .
<i>Epeira cancer</i>	<i>Plectana ellipsoides</i> ¹³	<i>Gasteracantha ellipsoi-</i> <i>des</i> .
<i>Epeira rugosa</i>	<i>Plectana gracilis</i> ¹⁴	<i>Acrosoma gracilis</i> .
<i>Epeira spinea</i>	<i>Plectana sagittata</i> ¹⁵	<i>Acrosoma sagittata</i> .
<i>Epeira mitrata</i>	<i>Plectana rediviana</i> ¹⁶	<i>Acrosoma rediviana</i> .
<i>Epeira caudata</i>	<i>Epeira turbinata</i> ¹⁷	<i>Cyrtophora turbinata</i> .
"	<i>Epeira glomosa</i> ¹⁸	"
<i>Tetragnatha grillator</i>	<i>Tetragnatha fulva</i> ¹⁹	<i>Tetragnatha fulva</i> .
<i>Phyllyra riparia</i>	<i>Uloborus Americanus</i> ²⁰	<i>Uloborus Americanus</i>

The numbers under which the species described by Walckenaer and listed in Abbot's figures are here given for the convenience of those who wish to refer to the originals. The reference numbers attached to them correspond with the reference numbers in the second column of the table and in the foot notes.

ABBOT'S MANUSCRIPT NUMBERS.—116, 121 ¹; 331, 346 ²; 375, 389, 484 ³; 126 ⁴; 119, 120 ⁵; 117 ⁶; 181, 182, 183 ⁷; 161 ⁹; 166 ⁹; 336, 341 ¹⁰; 151 ¹¹; 156 ¹²; 118 ¹³; 47, 48 ¹⁴; 50 ¹⁵; 49 ¹⁶; 79, 80 ¹⁷; 77, 78 ¹⁸; 211, 216, 221 ¹⁹; 44 ²⁰.

⁸ id II, 171. This is probably the figure to which Hz. refers (Sp. U. S. p. 125) when he cites Bosc as authority for the name. The species which Walck. has named *nobilis*, *iris* and *cerasiae* all seem to me to be *stellata*, and it is odd that Walck. should have put them even into a different genus from *stellata* which is described in his "Tabl. des Araeides" p. 65, fig. 54. If this spider is to be placed in a genus other than *Epeira*, it might retain the now abandoned name of *Plectana*, which is here provisionally revived to receive it. Emerton gives the species to Hentz. ("New Eng. Epeiridae," p. 319).

⁹ id p. 119. ¹⁰ id p. 120. ¹¹ id p. 109. ¹² id p. 110. ¹³ id p. 155.

¹⁴ id p. 193. ¹⁵ id p. 174. ¹⁶ id p. 201. ¹⁷ id p. 140.

¹⁸ id p. 144. This bears some likeness to my species *Cyrt. bifurca* and may prove to be the same.

¹⁹ id p. 212. Abbott figures a number of Tetragnathas including what appears to be Emerton's *T. caudata* (*T. lacerta* Wlk.); but a careful study will be required to determine which are simply variations. Hentz's *grillator* is probably the one here designated. Walckenaer's *Tetragnatha zorilla* (Ap. II, p. 221 and Pl. 19, 2 B) which is figured from Abbot's mss., belongs to his own genus *Latrodectus* (*Lathrodectus*), and is Hentz's *Theridion verecundum* and *lineatum*. It is also the *Latrodectus formidabilis* and *L. variolus* of Walk. (Apt. Vol. I, p. 647, 648.). The name of this interesting spider will now be *Lathrodectus formidabilis* WALCK.

²⁰ id p. 212.

Cirolana feasting on the Edible Crab.—Prof. LEIDY stated that on last Saturday, having occasion to go to Beach Haven, N. J. during a leisure half hour stroll along shore, he noticed, here and there a dead crab, *Callinectes hastatus*, lying on the sand, near the last high tide mark. The crabs observed happened to be all females and they appeared to have died recently as some were quite fresh and showed no signs of decomposition. Others, broken open by removing the carapace, were found to have the body cavity swarming with a living isopod, the *Cirolana concharum*, which had preyed upon the organs and were variously colored by the food with which they were gorged. From a single crab there were taken 108 of the *Cirolana* ranging from 15 to 22 mm. in length by 5 to 7 mm. in breadth.

The isopod is grayish translucent above and whitish translucent beneath, and centrally variously colored, brown, black, red or yellow, from the food contents. The dorsal plates are minutely dotted, black or brown, in bands. The eyes are triangular with rounded angles, and black. The antennae are nearly double the length of the antennules. The mandibles are furnished with a strong, brown, tricuspid molar. The caudal plate or telson is triangular with a blunt, slightly emarginate apex and with a pair of spines each side of the latter. The isopod has been observed by Stimpson at Charleston, S. C. and by Harger at Vineyard Sound, Mass., but has not previously been reported from the coast of New Jersey. Three isolated specimens of the same were picked up on the shore of Beach Haven, the last summer.

On Bopyrus palaemoneticola.—Prof. Leidy also presented numerous specimens of the prawn, *Palaemonetes vulgaris*, infested with the parasite, *Bopyrus palaemoneticola*, obtained at Beach Haven, N. J. From about two quarts of the prawn, caught for fish-bait, upwards of fifty contained the *Bopyrus*.

FEBRUARY 28.

The President, Dr. LEIDY, in the chair.

Twenty-five persons present.

The death of James S. Mason, a member, was announced.

Note on Lepas fascicularis.—Prof. LEIDY remarked that while stopping at Beach Haven, N. J., the last summer he had observed that from time to time the debris thrown on shore would differ according to the direction of the wind. On one occasion a strong wind from the north cast up a considerable quantity of material consisting of fragments of wood, grass, fucus, etc., to most of which was attached a profusion of goose-barnacles, *Lepas fascicularis*. Among the materials observed were apples and cranberries, which also had bundles of barnacles attached, and as the fruit was not decomposed, it appar-